



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<p>(21) International Application Number: PCT/GB99/01554</p> <p>(22) International Filing Date: 17 May 1999 (17.05.99)</p> <p>(71) Applicant (for all designated States except US): THE GREEN HAT COMPANY LIMITED [GB/GB]; Larch House, Sulhamstead, Berkshire RG7 4BB (GB).</p> <p>(72) Inventor; and</p> <p>(75) Inventor/Applicant (for US only): PERRY, Anthony [GB/GB]; Hurst Farm Barn, Tally Ho Corner, Woodchurch Road, Shadoxhurst, Kent TN26 1LE (GB).</p>		<p>(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published With international search report.</p>
<p>(54) Title: A LOBED COLLAR FOR CARRYING DISPOSABLE CUPS</p> <p>(57) Abstract</p> <p>A lobed collar (14) to suspend and carry paper and plastic cups. A strip of paper or light card is cut such that a central aperture (11) creates a collar which grips around the circumference of paper or plastic cups beneath the lip (18). Two lobes (12), each with a finger hole (10) cut at the extremity, extend from the collar and allow a cup, as described above, to be suspended from a single finger. Eyelets (15) are cut at each end of the aperture which creates the collar, to prevent tear, while a fold (17) along each lobe from the eyelets serves to increase the tightness of the collar around the cup when it is suspended and under load. Suspended beneath a single axis, the cup and its liquid contents move in a stable relationship.</p>		

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## A LOBED COLLAR FOR CARRYING DISPOSABLE CUPS

This invention relates to the safe carriage of disposable paper and plastic (beverage) cups suspended from a single finger to facilitate optimum stability of a liquid  
5 in relation to its container.

Plastic and paper cups are now in daily use in their tens of millions to carry a variety of hot and cold liquids. Some are available with lids and/or with integral handles fixed around the cup's circumference. These cups are often used in fast food outlets, bars and cafeterias to cater for people *en route*, people in a hurry and often  
10 carrying other items of luggage or shopping. Where these cups are held in the hand around the circumference and the liquid contained is hot, they are at best uncomfortable to handle and at worst present a danger of injury through scalding. Furthermore, whether such cups are held around the circumference or using an integral handle, the liquid is inherently unstable because the forces at play upon the cup and its contents are  
15 not free to compensate for sudden and arbitrary movements as would be the case if the cup were suspended directly from above. This effect, in part, can be achieved if the cup is held between two fingers at the lip or rim, but this in itself presents potential hazards because the finger pressure may collapse the lip and cause the cup to fall and its contents to spill. Equally, the cup may simply slip out from between the fingers.

20 We have invented a mechanism which resolves these perennial problems associated with the use of paper and plastic cups and, in so doing, increased their safety and manoeuvrability even in those circumstances where the user and, therefore, the cup and its contents are most vulnerable.

A lobed collar is formed from a piece of paper or lightweight card whose  
25 dimensions will vary according to the size of the cup being used. Similarly, the weight and type of paper used will vary according to the different treatments applied such as wax or vinyl which vary its wet strength, tensile properties and tear characteristics.

The lobed collar is cut from a single strip, in length approximately two and a half (2.5) times the diameter of the paper cup at its widest point or one and three tenths (1.3) the length of the circumference of the cup at its rim. In width, the lobed collar is no wider at any point than, approximately, one sixth (0.16) its length. At each end of  
5 the collar, the paper widens to its maximum and holes of approximately three centimetres (3cm) in diameter are cut whose centres are approximately three centimetres (3cm) from the ends of the lobed collar. The width of the lobed collar at its centre is also at its greatest such that two semi-circles of paper protrude outwards from the strip at this point.

10 At the centre of the lobed collar, a straight cut is effected through the paper and extends in both directions along the lobed collar to a maximum of one half (0.5) the external circumference at the rim of the cup. Therefore, for a standard twelve ounce (12oz) waxed paper cup, the length of this cut or aperture would be approximately one hundred and twenty eight millimetres (128mm) or sixty four millimetres (64mm) in  
15 each direction from the centre. At the points where this aperture finishes, small holes or eyelets of approximately one half centimetre (0.5cm) in diameter are cut to dissipate the load at those points where the collar is most vulnerable, in order to prevent tearing.

This collar can then be mounted over the cup in the following fashion. The semicircular protrusions or tabs at the centre of the lobed collar are pulled outwards and  
20 this collar is placed over the rim of the cup and, when released, allowed to rest under the rim, i.e. the lip, and against the side of the cup. The tabs face down the length of the cup while the collar sits under the lip around the circumference. The extremities of the lobed collar with their finger holes are then pulled upwards and drawn together. The effect of this action is to strengthen the lobed collar's grip under the lip of the cup  
25 around its circumference. The arms or lobes extending from the central collar are prevented from distorting by the fold initiated along a line from each eyelet towards its adjacent finger hold. The lobe folds are initiated during the manufacturing process and

further increase the strength of the grip of the collar around the cup by forcing the inside edge of the collar against the cup when the lobes are brought together and the collar is under load. The lobed collar and the cup suspended beneath can thereafter be held over a single finger. The ability of the cup and its contents to move freely around a single  
5 axis prevents spillage when the user is in motion and keeps the user free from the hazards associated with carrying the cup in the traditional way.

By way of demonstration, the construction and articulation of the invention will now be described with reference to the accompanying drawings in which:-

*Figure 1* illustrates the lobed collar in its un-articulated state denoting the  
10 integral lobes and central collar, and the relative dimensions and relevant cuts.

*Figure 2* illustrates the lobed collar in its first articulation when the tabs are pulled to create the collar aperture which is placed over the rim and under the lip of the cup.

*Figure 3* illustrates the lobed collar in its final articulation with the finger holes  
15 coming together and the inward facing folds of the lobes. Referring to the drawings, the lobed collar comprises a length of paper or light card widening at the extremities and at the centre. Two finger holes 10 are cut at each extremity and an aperture 11 created by cutting along each lobe 12 from the centre of the collar 14, this cut corresponding in length to one half (0.5) the rim circumference of whichever size of cup is to be used.  
20 At each end of this aperture 11 a small hole or eyelet 15 is cut or punched in order to prevent tearing.

The widening at the collar 14 creates two protrusions or tabs 16. From the eyelets 15 to a point midway towards the finger holes 10 a fold 17 is initiated to tighten the collar's grip around the circumference of the cup at the rim. When the tabs 16 are  
25 pulled outwards, the collar 14 can be placed over the rim of a paper or plastic cup whose rim is folded over to form a lip 18. The collar 14 is held such that the apex of the initiated fold 17 along each lobe is uppermost.

Therefore, as the collar 14 opens, the lobes remain horizontal. With the inside edges of the collar 14 lying under the lip 18 of the cup, the finger holds 10 can be drawn upwards and together. At the point where the eyelets 15 meet the side of the cup, the bends at the interface between lobes and collar have the effect of tightening  
5 further the collar around the cup under the lip. The cup and its contents can then be suspended from a point directly above their centre.

## CLAIMS

1. A lobed collar cut from paper or light card comprising two finger holes at the lobe extremities, an aperture extending from the centre to form a collar, eyelets to prevent tearing, peripheral tabs extending from the collar to apply the collar over a paper cup and folds initiated between the eyelets and the finger holds to increase the tightness of the collar around a paper or plastic cup's circumference beneath the lip.

2. A lobed collar cut from paper or light card as claimed in Claim 1, wherein an aperture extending from the centre of the collar is cut to the length of one half (0.5) the external circumference of the paper/plastic cup at the rim, such that cups of different sizes and volumes can be accommodated.

3. A lobed collar cut from paper or light card as claimed in Claim 1 or Claim 2, wherein eyelets are cut or punched at the ends of the collar aperture to disperse stresses exerted at these points by the weight of the cup and its contents in order to prevent tearing.

4. A lobed collar cut from paper or light card as claimed in Claim 2 or claim 3, wherein a fold is initiated along both lobes from the eyelets towards the finger holes, so that when the collar is placed over the cup, pressure is increased at the interface of the collar and the cup.

5. A lobed collar cut from paper or light card as claimed in Claim 3 and Claim 4, wherein finger holes are cut at the extremities in order to suspend from a single point a cup gripped with a lobed collar under its lip.

6. A lobed collar cut from paper or light card substantially described herein with reference to Figures 1-3 of the accompanying drawing.

Figure.1

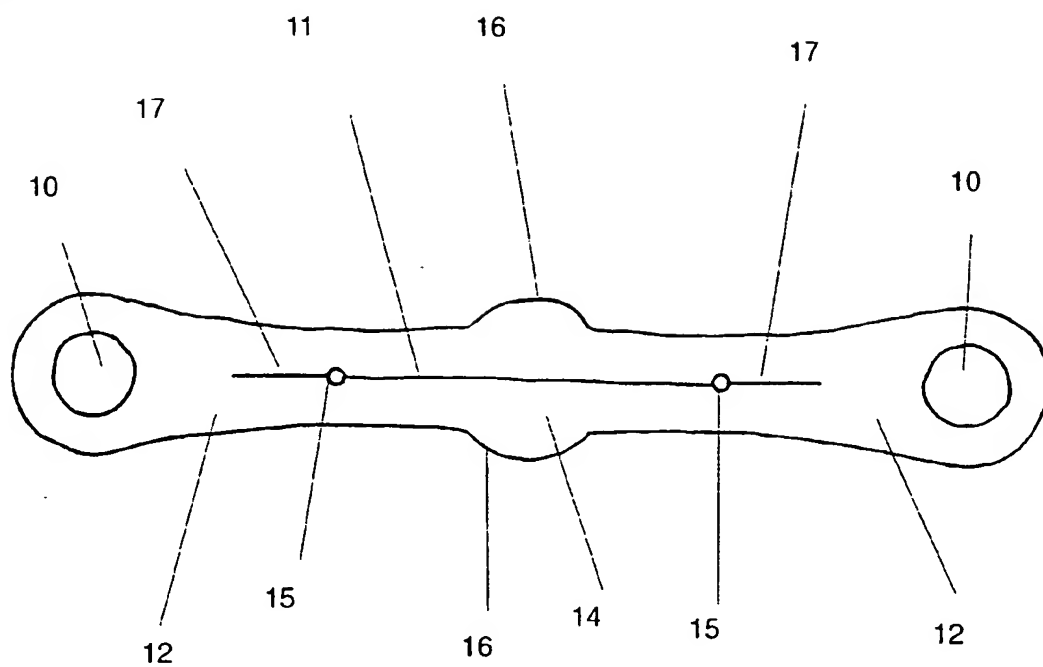


Figure.2

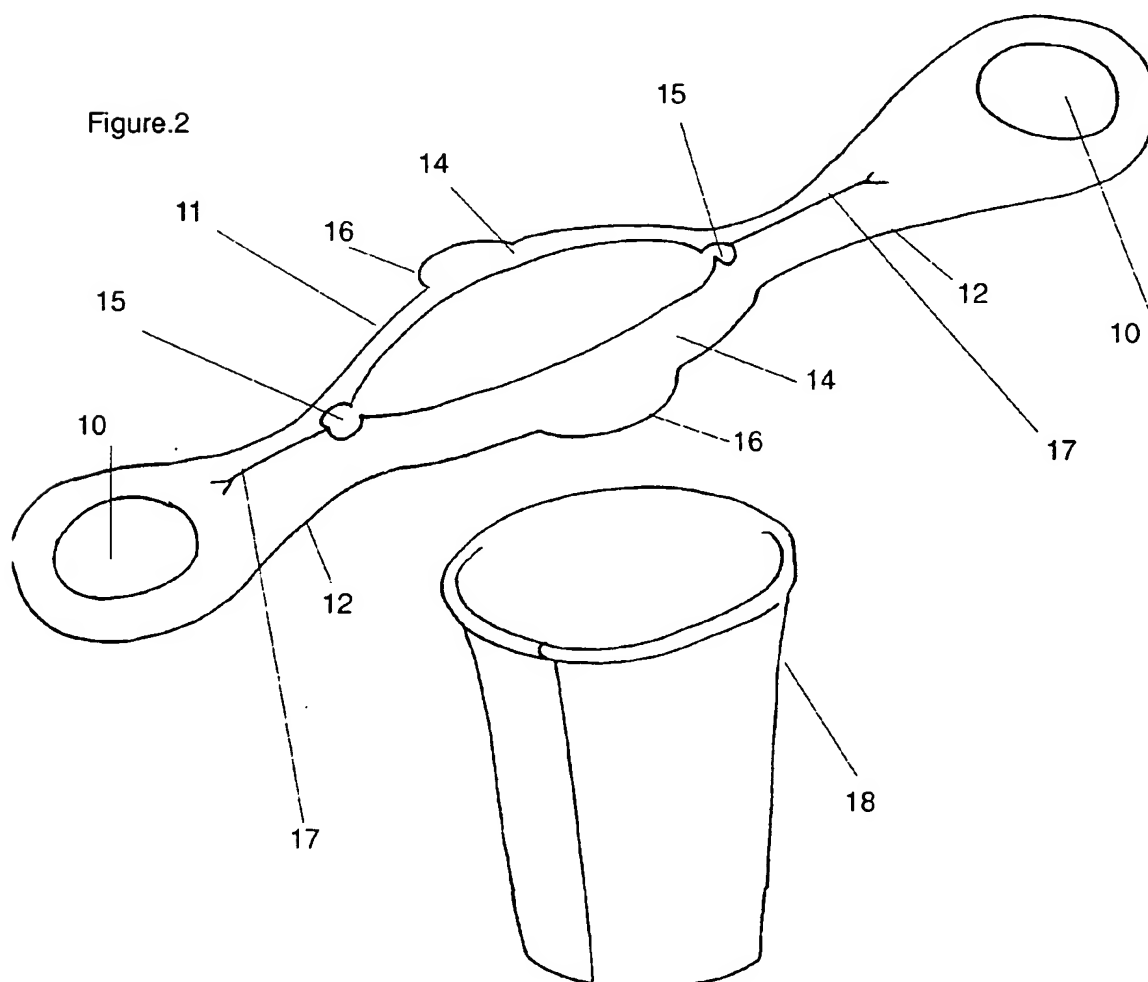
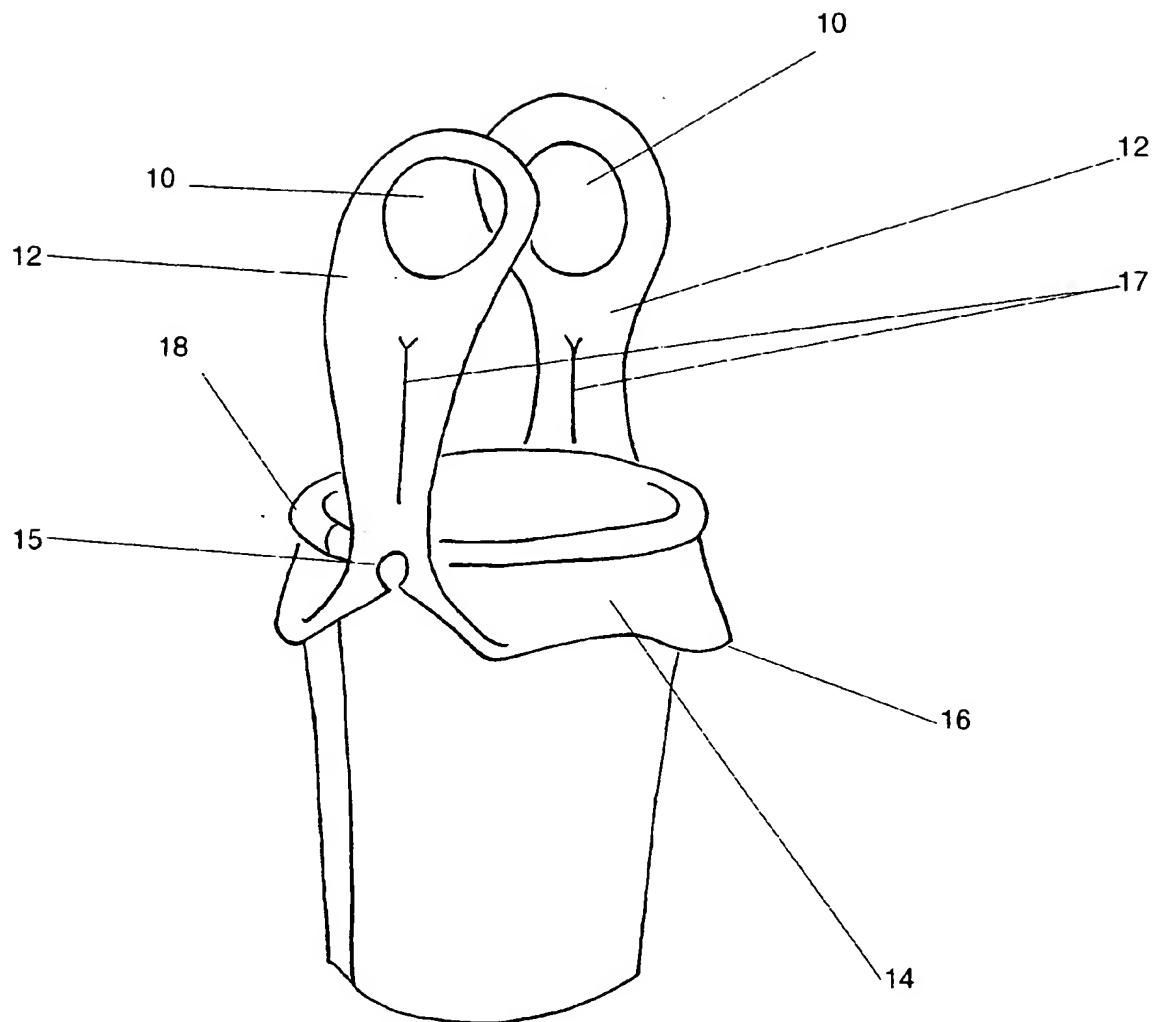




Figure.3



# INTERNATIONAL SEARCH REPORT

Int ional Application No  
PCT/GB 99/01554

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 B65D25/28

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2 194 898 A (H. HANFORD) 26 March 1940 (1940-03-26) the whole document ---	1-5
A	GB 926 719 A (ILLINOIS TOOLS) 22 May 1963 (1963-05-22) page 2, line 1 - line 13; figure 1 ---	1-5
A	US 5 695 232 A (TIPP RAYMOND P) 9 December 1997 (1997-12-09) the whole document ---	1-5
A	EP 0 846 631 A (ILLINOIS TOOL WORKS) 10 June 1998 (1998-06-10) the whole document ---	1-5
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

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Date of the actual completion of the international search

24 January 2000

Date of mailing of the international search report

07.01.00

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
A	US 3 931 948 A (MASON JR STANLEY I) 13 January 1976 (1976-01-13) the whole document -----	1-5

# INTERNATIONAL SEARCH REPORT

national application No.

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## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 6  
because they relate to subject matter not required to be searched by this Authority, namely:  
Rule 6.2(a) PCT
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

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2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
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Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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